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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KIM, PAUL	

ART UNIT	PAPER NUMBER
2161	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/779,759	MIETTINEN ET AL.	
	Examiner	Art Unit	
	Paul Kim	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to the following communication: Amendment filed on 20 September 2007.

2. Claims 1-32 are pending and present for examination. Claims 1, 8, 15, 17, 24, and 31 are in independent form.

Response to Amendment

3. Claims 1, 8, 15, 17, 24, and 31 have been amended.

4. No claims have been cancelled.

5. No claims have been added.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 1-7 and 17-23** are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claims 1 and 17, as amended, recite the limitation that "the first data record and the second data are consecutive data records in the database." While Applicant's newly added claim limitations are noted, the claims as recited fail to cure the deficiencies cited in the prior Office Action. It is noted that the claim is inoperable as the first data record and the second data record cannot be consecutive data records in the database wherein the second data record has yet to have been stored on the database. That is, while the method step of retrieving a first integrity checksum recites that the "first data record and the second data record are consecutive data records in the database," it is noted that the data records cannot be consecutive data records until the second data record has been stored. Furthermore, the claims as recited, disclose a method wherein the second data record is stored

once the second integrity checksum has been computed for the second data record. Therefore, it is noted that the method step of retrieving a first integrity checksum is prematurely reciting that the "first data record and the second data record are consecutive data records in the database," when the second data record has yet to have been stored in said database. Accordingly, for the purposes of this examination, no prior art will be applied to the aforementioned claims as it is have been determined that the claims, as recited, are inoperable.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 8, 12, 13, 15, 24, 28, 29, and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al (U.S. Patent No. 6,968,349, hereinafter referred to as OWEN), filed on 16 May 2002, published on 20 November 2003, and issued on 22 November 2005.

10. **As per independent claims 8, 15, 24, and 31,** OWEN discloses:

A method, comprising:

retrieving a second data record to be verified from a single database {See OWEN, C8:L6-24, wherein this reads over "the minimized data journal entry is read"};

retrieving a second integrity checksum of the second data record, wherein the first data record and the second data record are consecutive data records in the database {See OWEN, C8:L38-54, wherein this reads over "[a]nother type of suitable validation value is a cyclic redundancy check (CRC) that provides a unique value that indicates the state of the record before applying the change"; and C10:L8-27, wherein this reads over "[w]hen the minimized data journal entry is to be applied to the corresponding database record, a validation value for the record is first computed using the same algorithm used to compute the validation value stored in the journal entry"};

retrieving a first integrity checksum of a first data record previous to the retrieved second data record {See OWEN, C8:L38-54, wherein this reads over "the validation value comprises a checksum that is computed using both the data in the old record and the metadata for the old record"; and C8:L55-C9:L10, wherein this reads over "[t]he validation value of the preferred embodiments is a

value that relates to the state of the record that corresponds to the journal entry just before applying the changes reflected in the journal entry"};

computing a third integrity checksum for the second data record based on the retrieved second data record, the first integrity checksum, and a storage key {See OWEN, C10:L8-27, wherein this reads over "[w]hen the minimized data journal entry is to be applied to the corresponding database record, a validation value for the record is first computed using the same algorithm used to compute the validation value stored in the journal entry"}; and

comparing the second integrity checksum to the third integrity checksum, wherein the second data record is considered authentic when the second integrity checksum and the third integrity checksums are equal {See OWEN, C10:L8-27, wherein this reads over "[i]f the two validation values match, we know with a high level of confidence that the record is in the identical state it was in just before the changes reflected in the journal entry were made"}.

11. **As per dependent claims 12 and 28,** OWEN discloses:

The method according to claim 8, wherein the retrieving the first integrity checksum comprises retrieving the first integrity checksum from a memory of a verification entity {See OWEN, C8:L8-24, wherein this reads over "[t]he generated validation value is then compared against the validation value stored in the minimized data journal entry"}.

12. **As per dependent claims 13 and 29,** OWEN discloses:

The method according to claim 8, further comprising:

storing the second integrity checksum on a memory of a verification entity {See OWEN, C10:L8-27, wherein this reads over "[t]his validation value is then stored as apart of the minimized data journal entry"}.

13. **Claims 9, 16, 25, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over OWEN, in view of Brown et al (USPGPUB 2003/0023850, hereinafter referred to as BROWN), filed on 26 July 2001, and published on 30 January 2003.

14. **As per dependent claims 9 and 25,** OWEN, in combination with BROWN, discloses:

The method according to claim 8, further comprising:

configuring the storage key to be a public key of public key infrastructure {See BROWN, Para. 0061, wherein this reads over "In particular, to verify the participants in a messaging session, logging controller 62 utilizes a public key for a user to attempt to decrypt the private key and checksum. If a private key matches a public key, then an identity for a user associated with the public and private keys may be verified. Further, logging controller 62 utilizes the public key to decrypt a checksum for the recorded messaging session and then computes a current checksum for the messaging session. If the checksums match, then the integrity of the messaging session may be verified. In addition, methods other than calculating a checksum may be utilized to verify the integrity of the messaging session"}.

The combination of inventions disclosed in OWEN and BROWN would disclose a method wherein the storage key is a public key used for verification purposes in a public key infrastructure. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by OWEN by combining it with the invention disclosed by BROWN.

One of ordinary skill in the art would have been motivated to do this modification so that the integrity of the signing entity may be verified.

15. **As per dependent claims 16 and 32,** OWEN, in combination with BROWN, discloses:

The system according to claim 15, wherein the signing entity and verification entity apply public key infrastructure {See BROWN, Para. 0061, wherein this reads over "In particular, to verify the participants in a messaging session, logging controller 62 utilizes a public key for a user to attempt to decrypt the private key and checksum. If a private key matches a public key, then an identity for a user associated with the public and private keys may be verified. Further, logging controller 62 utilizes the public key to decrypt a checksum for the recorded messaging session and then computes a current checksum for the messaging session. If the checksums match, then the integrity of the messaging session may be verified. In addition, methods other than calculating a checksum may be utilized to verify the integrity of the messaging session"} for calculating and verifying the one of the first integrity checksum and the second integrity checksum .

The combination of inventions disclosed in OWEN and BROWN would disclose a method wherein the storage key is a public key used for verification purposes in a public key infrastructure. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by OWEN by combining it with the invention disclosed by BROWN.

One of ordinary skill in the art would have been motivated to do this modification so that the integrity of the signing entity may be verified.

16. **Claims 10 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over OWEN, in view of Pond et al (U.S. Patent No. 4,864,616, hereinafter referred to as POND), filed on 15 October 1987, and issued on 5 September 5, 1989.

17. **As per dependent claims 10 and 26,** OWEN, in combination with POND, discloses:

The method according to claim 8, further comprising:

configuring the retrieved integrity checksum for a first row of the database to be a generated initialization vector {See POND, C3:L53-62, wherein this reads over "[t]he initialization vector contains bits for indicating the starting bye in each of the key streams used for encryption and decryption. The Checksum is derived by summing the . . . the Initialization Vector and issued to confirm the integrity of the label"}.

The combination of inventions disclosed in OWEN and POND would disclose a method wherein the integrity checksum for a first row of a database is a generated initialization vector. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by OWEN by combining it with the invention disclosed by BROWN.

One of ordinary skill in the art would have been motivated to do this modification so that where there is no previous integrity checksum available, the initialization vector may be used to in the computation of a second integrity checksum.

18. **Claims 11 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over OWEN, in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA).

19. **As per dependent claims 11 and 27,** OWEN, in combination with AAPA, discloses:

The method according to claim 8, further comprising:

configuring the retrieved integrity checksum for a first row of the database to be a digital signatory of the signing authority.

20. **Claims 14 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over OWEN, in view of Cain (U.S. Patent No. 6,557,044, hereinafter referred to as CAIN), filed on 1 June 1999, and issued on 29 April 2003.

21. **As per dependent claims 14 and 30,** OWEN, in combination with CAIN discloses:

The method according to claim 8, further comprising:

configuring the integrity checksums to comprise a running sequence number {See CAIN, c2:l64-67, wherein this reads over "incremental checksumming may be utilized. Initially, the checksum for all routes in a set is computed by determining the checksum for all sequence numbers"}.

Response to Arguments

22. Applicant's arguments filed 20 September 2007 have been fully considered but they are not persuasive.

a. Rejections under 35 U.S.C. 101

Applicant's Amendment fails to cure the deficiencies cited in the prior Office action. See explanation provided above.

23. Applicant's arguments with respect to claims 8-14, 15-16, 24-30, and 31-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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